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ABSTRACT

The purpose of this study was to examine the impact of various types of living accommodations on the academic performance of college freshmen at West Chester State College (Pennsylvania). Three types of housing were defined: single-sex dormitories, coeducational dormitories, and commuter living accommodations. The association of housing arrangements with academic achievement was studied using a measure of over- or underachievement. A random sample of students was used, and their predicted grades, based on several variables, were subtracted from actual grades in fall 1976 to obtain an achievement index for each student. A one-way analysis of variance was performed on the achievement means of each of the three housing groups. No significant differences were found between the achievement index means of the groups. However, students living in single-sex dormitories achieved higher grade-point averages than predicted, while those in coed dormitories and commuters had grade-point averages below those predicted. A review of existing policy on housing freshmen is suggested, as is further research. (Author/MSE)

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ACADEMIC OVER- AND UNDERACHIEVEMENT AND RESIDENCE PATTERNS: AN ASSOCIATIVE STUDY

APPLIED EDUCATIONAL RESEARCH
AND EVALUATION

by

Louis F. Weislogel

West Chester State College

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
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ABSTRACT

ACADEMIC OVER- AND UNDERACHIEVEMENT AND RESIDENCE PATTERNS: AN ASSOCIATIVE STUDY

by

Louis F. Weislogel

Applied Educational
Research and Evaluation — Eastern Pennsylvania Cluster

Residence halls are an integral part of a college's educational program. A major function of any residence hall program is to maintain an atmosphere that encourages academic excellence and promotes learning. Administrators have an obligation to investigate the implications and educational results of their activity in regard to collegiate residence.

The purpose of this study was to examine the impact of various types of living accommodations on the academic performance of freshmen. Three types of housing accommodations were defined: single sex dormitories; coed residence halls; and commuter living accommodations. The association of various housing arrangements with academic achievement was studied using a measure of over- or underachievement. A random sample of students was drawn from each of the three groups. Predicted grades, based on a combination of variables, were subtracted from actual grades for the fall, 1976, yielding an academic achievement index for each student. A one-way analysis of variance was performed on the achievement means for the three groups.

No significant differences were found between the achievement index means of the students living in the three types of housing. However, students living in single sex dormitories achieved higher than predicted, while students residing in coed residence halls and those commuting obtained grade point averages below what was predicted.

Results indicated a need for review of existing policy on housing freshmen and further study on the impact of commuting on academic performance. A recommendation was made that further experimental research be conducted to determine any cause and effect relationship between living accommodations and academic achievement.

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INTRODUCTION

Colleges and universities have the task of developing environmental situations that enhance a student's academic potential to its fullest. The residence hall system has the opportunity to influence directly students' academic achievement (Taylor and Hanson, 1971). It seems reasonable to assume that the living arrangements of a freshman college student have a substantial impact on his academic adjustment to his college environment.

Most colleges view the residence halls as an integral part of their educational program. West Chester State College is heavily committed to providing housing for its students. Because of this, student affairs administrators have an obligation to investigate the implications and educational results of their activity in regard to collegiate residence. This study of the educational benefits of residence hall living has been stimulated by a need to determine what factors make a difference in the college student's intellectual development.

West Chester's investment in residence hall facilities and staff personnel is based on the premise that a student's education is enhanced by living in a residence hall. Ideally, the residence hall program should provide an atmosphere that encourages academic excellence and promotes learning. One of the major objectives of the residence life program at West Chester is to develop living arrangements that provide for varied life styles and promote academic achievement. There is

a need to determine the college's progress in meeting this stated goal.

In addition to evaluating the overall effectiveness of the residence hall program in facilitating learning, the effects of a recent policy change in which the college placed freshmen in coed residence halls need review. The move to coed residence halls was made by the Student Affairs Division as a result of requests and demands of students and other administrative offices of the institution. Faced by these many and varied demands to depart from traditional policies, the division lacks support for the decisions they must make. The Student Affairs administrators can no longer rely on social consensus. They must find empirical evidence to justify their decisions.

At the same time that there is a need for evaluating the effectiveness of the residence halls in facilitating academic achievement, one cannot lose sight of the fact that half the students who attend West Chester State College are commuters. The question arises as to what effect commuting to and from campus has on the total development of a student and, in particular, his academic performance? Meaningful evidence would include a statistical controlled comparison of the academic achievement of students living in various housing accommodations.

The purpose of this study was to examine the influence of various types of living accommodations on academic performance of freshmen at West Chester State College. Specifically, the study was designed for two purposes. The first objective was to compare the academic achievement of freshmen living in

college-owned residence halls with first year students living at home and commuting to college. The second goal was to examine the difference in academic performance of freshmen living on campus in coed residence halls with those residing in single sex dormitories. Subjects in the study were students entering college for the first time in the fall of 1976. The association of various housing arrangements on academic achievement was studied using a measure of over- or under-achievement. The predicted grades of a random sample of students from each of the three types of residence was subtracted from their actual grades for the fall, 1976, yielding an academic achievement index. A one-way analysis of variance was performed on the achievement means for the three types of accommodations. The null hypothesis tested was that there was no significant difference between the three groups.

BACKGROUND AND SIGNIFICANCE

The prime objective of any college is that of transmitting knowledge. The institution is first and foremost concerned with its curriculum, teaching faculty, library, study facilities, and incentives for faculty and students to add to their knowledge through research and publications. Since the primary objective of an educational institution is an academic one, the residence hall, first of all, must provide an environment suitable to the academic life. Residence halls must provide surroundings which tend to promote academic achievement, good scholarship, and maximum intellectual stimulation.

Residence halls must be an integral part of the collegiate community. Stoner and Yokie (1969) state that the residence hall system should serve as an adjunct and supplement to the total educational process of students by providing the proper scholastic environment. Until recently, statements regarding the educational benefits of residence hall living have been primarily based upon assumptions and untested facts. Colleges should be in a position to state more specifically the educational benefits to be derived by a college student living in residence halls. This study sought to define the differential impact of the residence hall and commuter living situations on academic achievement of freshmen students.

In regard to housing, the freshman year is probably the

most crucial of all the college years. Greenleaf (1969, p. 67) writes, "The majority of freshmen who fail do so not because they lack ability to do college work, but because of insufficient maturation, failure to adjust to the campus environment, and inability to develop self-discipline and to accept self-responsibility."

One of the major functions of the residence hall system is to serve as an adjunct and supplement to the total educational process of students by providing the proper scholastic environment. Students must develop a sense of identity, a sense of security, a sense of belonging, and an enthusiasm and stimulation for learning before they can achieve their academic goals. These needs are most effectively met in the residential setting.

West Chester State College operates eight dormitories which provide accommodations for approximately 3100 students. A total of 1151 freshmen were housed in both coed and single sex facilities in the fall of 1976. The college believes that life in a residence hall is an integral part of a student's educational experience and can provide opportunities for personal and social growth. The objectives of the residence hall program are to facilitate personal growth and provide experiences for individuals to grow and develop into mature human beings. An attempt is made to integrate cognitive and affective learning.

The influence of various types of living accommodations on college students has been the subject of discussion throughout much of the history of higher education (Brubacher and Rudy, 1958). Some educators have philosophically dis-

cussed housing arrangements and intellectual atmosphere (Sanford, 1962; Liker, 1965; Littlefield and Spencer, 1973).

According to Murphy (1969) recent developments in residence hall programs nationwide indicate an increased emphasis on the development of an educational atmosphere within the residence halls. Residence halls are viewed by many as an integral part of living-learning in college (Williams and Reilley, 1972). Chickering (1974) affirmed that the residence hall environment can foster academic development.

Student housing research is conspicuous by its scarcity. In writing about the future of residence halls, Stoner and Yokie (1969) write that the greatest single need is research. In the paucity of research in the entire area of student housing, few researchers have investigated empirically the academic emphasis which various types of living arrangements may provide.

Fairchild (1963) has commented on varying residence arrangements among upperclassmen and freshmen and indicates that meager knowledge exists regarding the academic impact of such residence patterns. Various studies conducted in the 1960s found no significant differences in the academic achievement of those living on campus and commuting (Prusok and Walsh, 1964; Schroeder and Sledge, 1966).

Feldman and Newcomb (1970) have written a summary of studies that compare academic achievement among various residential groupings of undergraduates. The results of these studies do not convey a clear set of trends. In most of the studies reported, differences were found between on-campus and off-campus groups if no consideration of initial differ-

ences in intellectual ability was included. However, when consideration of differences in academic aptitude among residence groups was controlled, differences in academic achievement among these groupings were not as frequently found. These authors report that in seven of ten studies reviewed no differences among residence groups in academic achievement was found after controlling for intellectual ability, while the other three studies did report significant differences.

In an investigation of college freshmen and living accommodations, Ryan (1970) found that success in studies showed little variation with collegiate residence, though campus residents obtained slightly higher grades. The results of a study by Hountras and Brandt (1970) indicated that students living in campus residence halls had a higher grade point average than did students who lived off campus or at home. Sauber (1972), on the other hand, found that the place of residence did not appear to have a significant effect upon grades.

Prior to the fall of 1976, freshmen were not placed in coed dormitories. The change resulted from the need to find more dormitory space for freshmen so that the admissions office could meet its recruitment goals. Parents and faculty have questioned this change.

One of the goals of this study was to determine how the placement of freshmen in coed living affects academic achievement. In recent years coed living has been tried in residence halls on many campuses, yet little formal information exists about its effectiveness. The major rationale for coed residence halls is that they promote a more natural

living environment than sex-segregated residence halls do, and that they have greater potential for fostering student development, particularly social development.

Most of the research on coed living has focused on measuring interpersonal growth and development and social relationships among the residents (Coons, 1970; Lynch, 1972; Corbett and Sommer, 1972). Empirical support for the concept of coed living promoting academic achievement has largely been neglected (Schroeder and LeMay, 1973). Obviously, there is a need for further research in this area. In the cognitive realm, Brown, Winkworth and Braskamp (1973) report that when grade point averages for first semester freshmen were compared, there was no significant differences between residents of coed facilities and single sex dormitories when ability was controlled.

While the focus of this study was to provide data for evaluating the effectiveness of the residence halls in facilitating academic performance, the commuting student cannot be overlooked. The need for information concerning the effect of housing on academic performance is especially important when half the student population served by the college commute to campus. If the residence halls play a function in promoting intellectual development, obviously, the place of residence of the commuting student must also play a role. There is a need to examine the impact of commuting on academic performance. Commuter students have been seriously neglected at West Chester, as they are at many other institutions, and it is essential that they be given more consideration.

The large number of students living at home while attending college has stimulated a great deal of interest in learning about commuters. In recent years, an increasing amount of research has been devoted in studying the differences between commuter and resident students. Chickering (1974) presented data indicating that there are significant differences between residence hall and commuter students. Chickering (1974) found that these two groups of students are different when they enter college, and that the college experience further differentiates them in terms of their educational development. More recently, Welty (1976) confirmed Chickering's findings and concluded that freshmen living in college dormitories grow on selected measures of intellectual growth to a greater degree than do their commuting counterparts.

Relevant literature offers inconclusive evidence of whether the type of housing affects the students' academic performance. The external validity of the studies reviewed above is crucial to the accurate interpretation of their results. In a recent study, Astin (1973) reports that the effect of dormitory living on academic achievement depends heavily on the type of institution. One of the most important things a college can do is to offer the student a variety of campus housing arrangements so that he may choose a unit which can maximize his academic development (Littlefield and Spencer, 1973). Pugh and Chamberlain (1970) suggest that at institutions in which undergraduate residences represent truly different living environments, the academic achievement of students would be most affected. Research on the effect

of various types of housing must be conducted in the context of a particular institutional setting and philosophy. It is from this frame of reference that this study was conducted.

The investigation was conducted as part of a module of study on applied educational research and evaluation for Nova University. The overall goal of the research module is to improve one's knowledge and skills in the application of educational research and evaluation concepts and techniques (Barton and Mines, 1973). The subject matter of this module can be applied to any topic of investigation in the field of education. From the standpoint of the module's course objectives, when a problem in the classroom or institution has been identified, the student should be able to carry out the appropriate research to answer that problem. This involves implementing a research model that identifies the type of research, the correct design, the key variables involved, and the appropriate statistical analysis and interpretation, so that the results of the study can be put to some meaningful and positive use.

This study represented an example of ex post facto research utilizing a simple randomized design in which the independent variable is the place of residence while attending college, and the dependent variable is a measure of over- or underachievement of academic performance. The design of the study provided data that lends itself to appropriate statistical analysis. It was hoped that the research conducted on the relation of housing to academic achievement would provide a basis for evaluating the effectiveness of the residence hall program at West Chester State College.

PROCEDURE

The study was designed to determine the association of various living accommodations with academic performance. The study represented ex post facto research. A simple randomized design was used for the investigation. Only the independent variable, whose effects were to be studied, and the dependent variable were identified by the investigator and enter into the analysis of the data (Isaac and Michael, 1971).

The independent variable was the place of residence. Three populations of freshmen students were identified on the basis of their housing accommodations during the first year of college. For the purpose of this study, three types of freshmen living accommodations were defined: (a) single sex dormitories, (b) coed residence halls, and (c) commuters (students living at home). An a posteriori comparison was made to determine whether the three populations differed significantly on the criterion variable.

The criterion variable in this study was a measure of over- or underachievement (ACH) for each student. West Chester State College uses a combination of variables to predict a grade point average (G.P.A.) for each entering freshman student. The estimated G.P.A. is the result of a multiple linear regression procedure using the College Entrance Examination Board Scholastic Aptitude Test (SAT) verbal and math scores and percentile rank in high school graduating

class. The predicted G.P.A. was subtracted from the student's actual G.P.A., and the resultant value was the ACH index. Thus, a student who obtained a G.P.A. higher than predicted earned a positive ACH index, and a student who earned a G.P.A. lower than predicted had a negative ACH index.

Subjects in the study were freshmen students who enrolled at West Chester State College in the fall of 1976. A random sample representing 10 percent of the freshmen students living in the coed residence halls and single sex dormitories was drawn. A random sample representing 15 percent of the first year students who commute to campus was also selected. Randomness was obtained by choosing the subjects from a computer printout of freshmen students listed by ascending order of social security numbers. At the time the study was conducted it was the college's policy that students' preferences for single sex or coed residence halls be considered when spaces were assigned. However, this was not possible in the majority of cases involving freshmen, and first year students were assigned randomly to both types of facilities.

The predicted G.P.A. and actual G.P.A. were obtained for each student from the Registrar's office of the college. The predicted grades were subtracted from their actual grades for the fall, 1976, yielding an achievement score. In order to transform all achievement scores to positive values, a constant, equal to the largest negative value in the sample, plus a factor of .01 to eliminate zero scores, was added to each ACH index. A one-way analysis of variance using the Scheffe' Post Hoc Test was applied to the data (Roscoe, 1975). For the purposes of statistical analysis the research problem

was expressed as a null hypothesis. The following null hypothesis was tested: There is no significant difference in the means of the three populations tested. The criterion for significance was set at the .05 level. The methodology employed was a replication of the procedures used and recommended by Whitney, et al (1973).

The analysis of variance (ANOVA) is a statistical procedure for making comparisons of means from two or more random samples. The one-way ANOVA was used to test the hypothesis that two or more independent samples were drawn from populations having the same mean. The samples were randomly drawn from different populations, then compared on a single criterion (ACH index) to determine whether the various populations differed with respect to this criterion (Roscoe, 1975).

The Scheffe' Post Hoc Test provides a method for identifying where significant differences occur if an overall hypothesis of equal means if rejected by the analysis of variance. The Scheffe' test is a general multiple-comparison procedure suited for a posteriori comparisons (Roscoe, 1975).

Variables that cannot be controlled are a part of any research project. There are circumstances or conditions which place certain restrictions upon the reliability, validity, applicability or general usefulness of the results. A number of limitations applied to the investigation.

First, in ex post facto research no statement can be made regarding cause and effect. Experimental research is the only satisfactory way to establish cause and effect relationships. In a posteriori studies such as this the effects

observed may be caused by some variable other than the independent variable whose effects were studied. Therefore, the study only showed the association of over- and underachievement with place of residence. Secondly, the sample was small and only involved the grades from first semester. A cumulative grade point average from both semesters of the freshman year would have been more significant. Finally, the results did not permit generalization beyond the living accommodation described and the particular group of students involved in the investigation. There was no external validity to the study. Results were unique only to freshmen students at West Chester State College.

All research studies involve a series of assumptions, especially those in the area of applied educational research. In most research involving human behavior there are, in addition to the independent variable whose effects are under investigation, any number of independent variables whose influences need to be controlled. Learning in college is a multifaceted process. It is questionable whether a uni-variate analysis is adequate for research on academic over- and underachievement. The selection of the research design and the statistics chosen to treat the data assumed a statistical rather than experimental control of variables.

For the purpose of this study, it was assumed that the three groups did not differ in terms of background variables such as age, sex, academic ability or motivational level, or if any differences did exist, they were randomized in the grouping process so that their effects were neutralized, cancelled out, or equated for all conditions. It was further

assumed that no extraneous variables interacted to produce differential effects between the three groups. Roscoe (1975) writes that all behavioral research should use the method of randomization. When subjects are randomly chosen or randomly assigned to experimental treatments, the effects of all independent variables other than the treatment variable are controlled.

A number of mathematical assumptions were made relating to the use of the analysis of variance statistic. First, it was assumed that the criterion scores were statistically independent. The other assumptions made were that the criterion scores were drawn from normally distributed populations and that the three populations had the same variances (Roscoe, 1975).

It was not assumed that the investigation would produce universal results, but rather the study was an attempt to obtain data that could be adapted to the residence hall program at West Chester State College with its unique characteristics.

For the purpose of this study the following terms were defined: Coed residence hall - college owned and operated residence halls located on campus, housing men and women in rooms on alternate floors or wings; single sex dormitory - college owned and operated dormitories located on campus, housing either all men or women; commuters - students living at the home of their parents, or in off-campus rooming houses or apartments. The words dormitory and residence halls were used synonymously.

RESULTS

The means and standard deviations of the achievement indexes (ACH), grouped by type of housing, are reported in Table 1.

Table 1

MEANS AND STANDARD DEVIATIONS OF ACH INDEXES FOR THREE TYPES OF HOUSING

Group	N	M	SD
Single Sex	53	.13	.05
Coed Dormitories	62	-.07	.02
Commuters	45	-.13	.06

Students living in the single sex dormitories achieved better grades than predicted, while students residing in coed residence halls and those commuting obtained grade point averages below what was predicted. An analysis of the ACH indexes for residents of single sex dormitories revealed a mean of .13 with a standard deviation of .05. The mean ACH index for students residing in coed residences was -.07, and the mean index for commuters was -.13. The standard deviations of the indexes for coed residents and commuters were .02 and .06 respectively.

The ACH indexes of the three groups were subjected to

an analysis of variance (See Table 2).

Table 2

ANALYSIS OF VARIANCE OF ACH INDEX BY TYPE OF HOUSING ACCOMMODATIONS

Source of Variation	Sum of Sq.	d.f.	Mean Sq.	F Ratio
Between	18233.60	2	9116.81	2.45
Within	584223.00	157	3721.16	
Total	602456.60	159		

According to the table no significant differences were found between the ACH index means of the students living in the three types of housing. A one-way analysis of variance on ACH indexes yielded an F - test statistic of $F = 2.45$; d.f. = 2,157; $p > .05$; therefore, the null hypothesis could not be rejected. Thus, the differences in academic achievement in the three groups were not statistically significant and were better attributed to chance than to any association with type of housing.

DISCUSSION, IMPLICATIONS, AND RECOMMENDATIONS

One of the major functions of the residence hall program is to promote an educational atmosphere within the residence halls. Student Affairs workers must be aware of the important influence of different types of housing on academic performance. This study sought to define the differential impact of single sex dormitories, coed residence halls, and commuter living situations on the academic achievement of college freshmen. The data analyzed in the study revealed that academic achievement did not differ among the residential categories when aptitude was controlled. The results of this study are consistent with those of earlier research (Prusok and Walsh, 1964; Schroeder and Sledge, 1966; Feldman and Newcomb, 1970; and Sauber, 1972).

It is evident from the statistical analysis of the data obtained in this study that the academic achievement of residence hall students is, practically speaking, not systematically better or worse than that of students living off campus. It may also be concluded that housing freshmen in coed residence halls produces no demonstrable difference in academic performance from those housed in single sex dormitories.

While no significant statistical difference occurred between the three types of living accommodations studied, the results of the investigation do reveal some interesting facts about the association of various types of housing arrangements

with over- and underachievement. The results are important because they demonstrated that freshmen living in coed residence halls and those commuting from home do not achieve to their predicted level of academic attainment based on aptitude and previous academic performance. Students, however, living in single sex dormitories were more likely to achieve to a level commensurate with their predicted academic performance. It is evident that under the conditions existing when this study was conducted that single sex dormitories may provide an environment more conducive to facilitating academic achievement than do coed residence halls.

There is an important factor which may have contributed to the failure to demonstrate any significant differences between the academic performance of students living in the three types of housing accommodations examined in this study. The section on "Procedures" reported that it was a policy of the college to try to accommodate the preference of freshmen students for a specific type of housing. While the majority of students were randomly placed in the residence halls, a large number of students were given room assignments of their choice. If all the residents, however, had been randomly assigned to the various housing options, the results may have been different. The fact that this was an evaluative study which dealt with existing conditions, rather than an experimental investigation with predefined conditions and complete random assignment of students, would have an effect on the results.

Another factor which may have affected the results was the use of only first semester grades. Many students have

an initial adjustment problem to college life, and the use of an entire year's academic work might have changed the results.

A third variable that was discovered during the investigation might have influenced the outcome. A number of students admitted and listed as commuters actually took up residence in rooming houses and apartments in the immediate area of the campus. It was discovered that many of these were late admissions to the institution and as such could not obtain campus housing. Most lived too far from home to commute, and their admission was contingent on finding accommodations for themselves. These students actually formed a fourth population.

There are a number of implications for the Student Affairs Division as a result of this investigation. The study raises a question as to whether entering freshmen should be housed in coed dormitories. A review of existing housing policy is needed.

Another concern for the division arises from the fact that the commuting group obtained the lowest ACH index of the three groups. If West Chester wishes to have a more positive impact upon the commuter students' academic development, programs and experiences must be established to facilitate the commuting students' academic performance. Currently the college is considering hiring a Director of Off-Campus Life. Certainly the results support the need for such a position.

Obviously there is a need for more empirical evidence concerning the impact of housing and life style on academic success. It is recommended that further research be conduc-

ted using a true experimental design in which freshmen are randomly assigned to all housing options to determine if there is a cause and effect relationship between living accommodations and over- and underachievement. Further investigations should be conducted over a longer period of time and more accurately define the commuting student population.

REFERENCES

Astin, A. W. "The Impact of Dormitory Living on Students." Educational Record, Summer, 1973, 54 (3), 204-210.

Barton, George M. and R. F. Mines. Applied Educational Research and Evaluation. Fort Lauderdale, Florida: Nova University Press, 1973.

Brown, Robert D., John Winkworth and Larry Braskamp. "Student Development in a Coed Residence Hall: Promiscuity, Prophylactic, or Panacea?" Journal of College Student Personnel, March, 1973, 14 (2), 98-104.

Brubacher, John S. and Willis Rudy. Higher Education in Transition. New York: Harper Brothers Publishers, 1958.

Chickering, Arthur W. Commuting Versus Resident Students. San Francisco: Jossey-Bass, 1974.

Coons, F. W. "The Resolution of Adolescence in College." Personnel and Guidance Journal, March, 1970, 48 (7), 533-542.

Corbett, Judith and Robert Sommer. "Anatomy of a Coed Residence Hall." Journal of College Student Personnel, May, 1972, 13 (3), 215-217.

Fairchild, Ellen. "Evaluating Residence Halls Through Trifocals." Journal of College Student Personnel, March, 1963, 4 (3), 171-176.

Feldman, K. A. and T. M. Newcomb. The Impact of College on Students. Vol. 2. San Francisco: Jossey-Bass, 1970.

Greenleaf, Elizabeth A. "Residence Halls 1970's." NASPA Journal, October, 1969, 7 (2), 65-71.

Hountras, P. T. and K. R. Brandt. "Relation of Student Residence to Academic Performance in College." Journal of Educational Research, April, 1970, 63, 351-354.

Isaac, Stephen and William B. Michael. Handbook in Research and Evaluation. San Diego: Edits Publishers, 1971.

Liker, Harold C. "College Housing as Learning Centers." Washington, D.C.: American College Personnel Association, Student Personnel Series, No. 3, 1965.

Littlefield, L. Richard and Edward F. Spencer. "A Variety of Approaches to Living-Learning." NASPA Journal, July, 1973, 11 (1), 43-51.

Lynch, R. C. "A Comparison of Activities and Behavior in Coeducational and Non-coeducational Residence Halls." College Student Personnel Abstracts, Winter, 1972, 7 (2), 227.

Murphy, Raymond D. "Developing Educational Meaning for Residence Halls." NASPA Journal, October, 1969, 7 (2), 61-64.

Prusok, R. E. and W. B. Walsh. "College Student Residence and Academic Achievement." Journal of College Student Personnel, March 1964, 5 (3), 180-184.

Pugh, Richard C. and Philip C. Chamberlain. "Undergraduate Residence: An Assessment of Academic Achievement in a Predominantly University Community." Journal of College Student Personnel, March 1976, 17 (2), 138-141.

Roscoe, John T. Fundamental Research Statistics for the Behavioral Sciences (2nd Ed.). New York: Holt, Rinehart and Winston, Inc., 1975.

Ryan, James T. "College Freshmen and Living Arrangements." NASPA Journal, October 1970, 8 (2), 127-130.

Sanford, N. The American College. New York: Wiley, 1962.

Sauber, S. Richard. "College Adjustment and Place of Residence." Journal of College Student Personnel, May, 1972, 13 (3), 205-208.

Schroeder, Charles G. and Morris L. LeMay. "Impact of Coed Residence Halls on Self-Actualization." Journal of College Student Personnel, March, 1973, 14 (2), 105-110.

Schroeder, W. L. and G. W. Sledge. "Factors Related to Collegiate Academic Success." Journal of College Student Personnel, March, 1966, 7 (2), 97-104.

Stoner, Kennet L. and J. Albin Yokie. "Residence Halls and the Future." NASPA Journal, October, 1969, 7 (2), 72-75.

Taylor, Ronald G. and Gary R. Hanson. "Environmental Impact on Achievement and Study Habits." Journal of College Student Personnel, November, 1971, 12 (6), 445-454.

Welty, John D. "Resident and Commuter Students Is it Only the Living Situation?" Journal of College Student Personnel, November, 1976, 17 (6), 465-468.

Whitney, Douglas R., David W. Perrin, Robert M. Casse, Jr., and Alvin D. Albertus. "Effects of Residence Hall Policies on Academic Achievement." Journal of College Student Personnel, July, 1973, 14 (4), 333-337.

Williams, D. E. and R. R. Reilly. "The Impact of Residence Halls on Students." Journal of College Student Personnel, September, 1972, 13 (5), 402-410.